



**Forging the Path to a Greener Future: U.S.- China Energy
and Environment Cooperation under the Ten-Year Framework**

中美能源和环境十年合作框架

共创绿色未来之路：十年合作框架下中美能源和环境合作

2008-2018

Building the Foundation for Continued Partnership

WHAT IS THE TYF?

十年合作概况

Climate change, clean energy, and environmental protection are among the greatest challenges facing the United States, China, and the world. The United States and China are the world's two largest economies as well as the largest energy consuming and greenhouse gas emitting countries – all with major implications for our respective countries, our public health, and the global environment. Recognizing we would be most effective if we tackle these problems together, the United States and China launched in 2008, at the fourth U.S.-China Strategic Economic Dialogue (SED), the Ten Year Framework for Energy and Environment Cooperation (TYF) -- the first-of-its-kind multi-agency platform between our two countries to promote greater cooperation on these vital issues.

气候变化、清洁能源和环境保护是中美乃至全世界面临的最大挑战之一。中国和美国是世界上两个最大的经济体，同时也是最大的能源消耗国和温室气体排放国，这些都给中美、两国公共健康及全球环境带来了重大影响。认识到通过合作解决这些问题对于双方是最为有效的途径，中美在2008年第四次中美战略经济对话（SED）期间签署了《中美能源和环境十年合作框架》（以下简称“十年合作”）。十年合作是中美双方致力于在这些至关重要的领域加强合作的第一个跨部门平台。

The synergies between the TYF and the Strategic and Economic Dialogue (S&ED, established on the basis of the SED and the State Department-MFA Senior Dialogue in 2009), have been forged through regular bilateral dialogues and concrete projects, and have firmed commitments to addressing our most serious energy and environmental challenges. These relationships have opened doors for energy and environmental cooperation between the United States and China at the highest levels of government. This strong foundation built under the TYF has contributed to accelerated progress and new initiatives such as the U.S.-China Climate Change Working Group (CCWG), which Secretary Kerry and State Councilor Yang Jiechi jointly launched in April 2013.

十年合作配合中美战略与经济对话（S&ED，2009年在中美战略经济对话与中国外交部和美国国务院战略对话的基础上建立），通过定期对话和具体项目，发挥协同作用，更加坚定了双方共同应对最为严峻的能源环境挑战的承诺。这些合作开启了中美两国在政府最高层面加强能源环境合作的大门。十年合作所奠定的坚实基础加快了两国合作的进展并助推新倡议的提出，例如中国国务委员杨洁篪和美国国务卿克里于2013年4月宣布成立的中美气候变化工作组。

The TYF's seven focus areas are: Clean Air; Clean Water; Clean and Efficient Transportation; Clean, Efficient, and Secure Electricity; Energy Efficiency; Wetlands Conservation; Protected Areas/Nature Preserves. Seven Task Forces have been set up around the focus areas and have developed their Action Plans as guidelines for their activities and outcomes. Participating U.S. and Chinese agencies include:

十年合作的七个重点领域包括：清洁的大气、清洁的水、清洁和高效的交通、清洁高效和有保障的电力、能效、湿地保护以及保护地/自然保护区。双方围绕这些重点领域建立了七个行动小组并分别制定了行动计划以指导合作活动和成果。参与合作的中美双方政府机构包括：



U.S. and Chinese participants at the plenary session of the U.S.-China Ten-Year Framework for Cooperation on Energy and Environment; Washington, March 2014.
Photo by U.S. Department of State

U.S. AGENCIES

美方政府机构

Department of State (DOS)*
Department of Energy (DOE)*
Department of Transportation (DOT)
Environmental Protection Agency (EPA)
Federal Energy Regulatory Commission (FERC)
U.S. Agency for International Development (USAID)
U.S. Fish and Wildlife Service (FWS)
U.S. Forest Service (USFS)
U.S. Geological Survey (USGS)
U.S. Trade and Development Agency (USTDA)
U.S. National Park Service (NPS)

国务院*
能源部*
交通部
环境保护局
联邦能源监管委员会
美国国际开发署
美国鱼类和野生动物服务局
美国林业局
美国地质调查局
美国贸易发展署
美国国家公园管理局

CHINESE AGENCIES

中方政府机构

National Development and Reform Commission (NDRC)*
Ministry of Environmental Protection (MEP)
National Energy Administration (NEA)
State Forestry Administration (SFA)
Ministry of Industry and Information Technology (MIIT)
Ministry of Housing and Urban-Rural Development (MOHURD)
Administration of Quality Inspection and Quarantine (AQSIQ)
Civil Aviation Administration of China (CAAC)
Ministry of Foreign Affairs (MFA)
Ministry of Finance (MOF)
Ministry of Science and Technology (MOST)

国家发展和改革委员会*
环境保护部
国家能源局
国家林业局
工业和信息化部
住房和城乡建设部
质量检验检疫总局
国家民航局
外交部
财政部
科技部

*TYF co-chair agencies

带*为双方牵头部门

WHAT DOES THE TYF DO?

The activities and outcomes under each of the seven TYF Action Plans are diverse. The United States and Chinese participants in the Action Plans engage in high-level policy dialogues, technical exchanges, international workshops, joint scientific research, and reverse trade and investment missions. As a measure of their respective commitments, both governments contribute their own financial and technical resources to the cooperation under the TYF.

十年合作进展

十年合作七个行动计划下开展的活动和产生的成果丰富多样。参与行动计划实施的中美两国有关方面开展了高级别政策对话、技术交流、国际研讨会、联合科研、互派经贸投资代表团等活动。作为履行各自承诺的措施之一，两国政府分别为十年合作框架下的活动提供了资金和技术资源。

Below are some examples of specific activities in the first five years of the TYF: 以下为十年合作前五年开展的有关合作：

Air Quality Action Plan: *Improving Air Quality to Improve Public Health*

Air pollution can have severe adverse effects on public health and economic growth. The development and implementation of effective legal, policy, planning, and monitoring tools for preventing and controlling air pollution have significant environmental, health, and economic benefits. Since the TYF was established, the United States updated its PM2.5 air quality standards and China adopted standards for the first time for PM2.5 (i.e. the fine particulate matter smaller than 2.5 micrometers in diameter that can enter the blood stream and poses the greatest health risks). Five Regional Air Quality Management Conferences have been held since 2008, bringing together air quality officials to exchange information on best practices and approaches for reducing urban and regional PM2.5 and ozone pollution. The United States and China have conducted several study tours and exchanges on approaches to regional air quality management, vehicle emission controls and compliance, emissions trading and pollution control for the power sector, and emissions measurement technologies and approaches. MEP and USTDA signed an agreement and have begun developing a model regional air quality plan for Jiangsu Province. EPA and MEP collaborated on vehicle emissions testing and compliance, and conducted research on emission rates from diesel trucks and buses.

空气质量行动计划：改善空气质量，提高公众健康

空气污染对公众健康和经济增长具有严重不良影响。制定和实施有效预防和控制空气污染的法律、政策、规划和监测工具对环境、健康和经济具有重要意义。自十年合作框架建立以来，美国更新了PM2.5的空气质量标准，而中国第一次明确了PM2.5标准，即直径小于2.5微米，能进入到血液并造成极大健康风险的细颗粒物。自2008年以来，双方已举行了五次区域空气质量管理会议，汇集了空气质量领域的政府官员，就减少城市和地区PM2.5和臭氧污染的最佳实践和方法进行了交流。中美已就区域空气质量管理、机动车排放控制和合规、电力部门排放交易和污染物控制、排放测量技术和方法开展了许多实地考察和方法交流。中国环境保护部和美国贸易发展署签署了一项协议，已开始为江苏省共同制定区域空气质量示范规划。美国环境保护局和环境保护部开展了车辆排放审验合格标准方面的合作，并就柴油卡车和客车的排放率开展了合作研究。

Water Quality Action Plan: *Improving Water Quality*

Clean water is a cornerstone of public health and is vital to sustaining the environment and economic development in both the United States and China. In 2008, MEP, EPA and USTDA created the U.S.-China Water Quality Cooperation Program. The program has since conducted eight workshops in China on water quality improvement, technologies, standards, and permitting. Specific areas of focus included advanced municipal water and wastewater treatment, reuse and water resources management, U.S. Clean Water Act and Safe Drinking Water Act in watershed management, nutrient management and criteria-setting, and water safety and security.

In addition, the Hubei Environmental Protection Bureau (EPB) and the Minnesota Pollution Control Bureau signed a Memorandum of Cooperation on Sister Lake partnership and water source management to strengthen the protection for Liangzi Lake and Pepin Lake, and promote future exchanges and cooperation. In addition, U.S. water technology companies, USTDA, EPA, and MEP collaborated in developing a USTDA-funded pilot project to demonstrate U.S. equipment and technology for groundwater sampling activities.

水质行动计划：改善水质

对于中美两国来说，干净的水是公共健康的基石，对环境和经济的可持续发展至关重要。2008年，中国环保部、美国环保局和美国贸易发展署建立了中美水质合作项目。该项目已就水质改善、技术、标准和许可等议题在中国举办了八次研讨会。具体重点领域包括先进的城市供水和污水处理；水资源管理和回收利用；美国《清洁水法》和《安全饮用水法》关于流域管理、营养物质管理和标准制定的内容以及水资源安全保障。

此外，湖北省环保厅和明尼苏达州污染控制局签署了姊妹湖和水资源管理的合作备忘录，加强对梁子湖和不平湖的保护，促进信息交流和合作；此外，中国环保部与美国相关水技术公司、美国贸易发展署、美国环保局合作，共同开展了一个由美国贸易发展署资助的试点项目，应用美国设备与技术进行地下水采样工作。



Guodong Wang, Ph.D. seedbank research at Xingkai Lake, Heilongjiang Province, China. Guodong Wang, Beth Middleton and Jiang Ming worked together on a CAS funded project on seed banks as part of a Senior Visiting Professorship for Beth Middleton.

Photo by Beth Middleton

Transportation Action Plan: *Promoting Livability and Sustainable Transportation*

Under the Clean and Efficient Transportation Action Plan, the United States and China made good progress on the livability project, low sulfur fuel for gasoline and diesel, emission and fuel enforcement programs, advanced vehicles technologies, biofuel production and application, voluntary participation in Private-Public Partnership programs, and harmonization and global interoperability of aviation systems. The two sides jointly selected the pilot cities for the livability project and shared experiences in this regard; established a clean vehicles industry-academia-research alliance and the U.S.-China Biofuel Joint Research Center; successfully hosted the Sixth U.S.-China Transportation Forum and the Third U.S.-China Advanced Biofuel Forum and the U.S.-China Aviation Energy Conservation and Emission Reduction Strategic Annual Forum; jointly conducted the U.S.-China energy research project and strategic study on China sustainable aviation biofuels; and conducted training on U.S.-China aviation energy conservation and emission reduction cooperation as well as pollution prevention and control for vehicles.

交通行动计划：促进宜居和可持续交通

在清洁和高效交通行动计划下，中美双方在宜居交通项目、汽柴油低硫化、排放及燃料执行计划、先进机动车技术、生物燃料生产及应用、自愿参与公私伙伴关系计划、航空系统和谐及全球互通等方面取得积极进展。双方共同选取了宜居交通项目的试点城市，并分享了相关经验；合作成立了清洁汽车产学研联盟、中美生物燃料联合研究中心；成功举办了第六届中美交通论坛、第三届中美先进生物燃料论坛、中美民航节能减排战略年会；共同开展了中美能源课题研究和中国可持续航空生物燃料领域的战略研究；进行了中美民航节能减排合作培训和机动车污染防治业务培训。

Electricity Action Plan: *Promoting "Smart Grids" to Reduce Greenhouse Gas Emissions*

The United States and China are working together under the TYF to promote "smart grids," recognizing that the power sector accounts for over one third of carbon emissions in both the United States and China. Smart grid technology offers the promise to reduce greenhouse gas emissions and air pollution by incorporating more renewable energy and distributed generation into the power grid. NEA, FERC, and USTDA advanced our bilateral cooperation by sponsoring a U.S.-China Smart Grid Dialogue, held in Shenzhen in 2012. These conversations have contributed to the development of two USTDA funded smart grid pilot projects with China State Grid and China Southern Grid, as well as the new Smart Grid Initiative under the U.S.-China Climate Change Working Group (CCWG). We expect our smart grids work to accelerate progress toward new concrete cooperation in building smart grids that are more resilient, efficient, and able to incorporate renewable energy and distributed generation to increase energy efficiency and security.

电力行动计划：推广“智能电网”，减少温室气体排放

中美双方认识到双方电力部门的碳排放都超过两国碳排放总量的三分之一，因此在十年合作框架下共同努力开展“智能电网”领域的合作。智能电网技术通过将更多的可再生能源和分布式能源并网，减少温室气体排放和空气污染。中国国家能源局、美国联邦能源管理委员会、美国贸易发展署通过支持2012年在深圳举行的“中美智能电网对话”，促进双边合作。对话促成了两个由美国贸易发展署资助的试点项目，中国国家电网公司和南方电网公司分别参与其中；对话也促成了中美气候变化工作组下智能电网倡议的创建。双方期待通过智能电网的合作，在建设更有弹性、效率更高、使更多可再生能源和分布式能源并网的智能电网过程中，加快双方工作进展，推进新的务实合作，提高能源效率和安全性。

Energy Efficiency Action Plan: *Creating a Platform for Energy Efficiency Cooperation*

As the world's two leading energy consumers, the United States and China have a global responsibility and self-interest to achieve greater efficiency in energy use. The aim of the Energy Efficiency Action Plan is to significantly enhance the energy efficiency of cities, buildings, industry, and consumer products. This action plan will be implemented by using a number of joint projects that foster trade and investment, collaborative analysis, training and awareness, standards, audits, and demonstrations. DOE, EPA, and NDRC have held an annual Energy Efficiency Forum (EEF) since 2009 that convenes 200 leaders from government, non-profits, and the private sector to assess progress on these projects and explore emerging opportunities for collaboration. A number of MOUs between U.S. and Chinese organizations have been signed over the years at the EEF to formalize new energy efficiency partnerships. These efforts have informed landmark new building energy codes, trained hundreds of facility managers and officials, disseminated advanced technologies, and inspired aggressive city level sustainability targets.

能效行动计划：建立能效合作的平台

作为世界上两个最大的能源消费国，中美更有效地使用能源符合两国的全球责任和自身利益。能效行动计划的目标是显著地提高城市、建筑、工业和消费品的能效。双方通过开展一系列合作项目来实现上述目标，包括促进贸易投资、合作分析、培训和提高公共意识、能效标准、能效审计、示范项目等。自2009年以来，中国国家发展改革委与美国能源部、环境保护局共同牵头，每年举办一届中美能效论坛，每届论坛均有来自政府、非营利机构、企业界的200多名代表参会，评估上述合作项目的进展，探讨新的合作机会。多年来，中美两国机构在能效论坛上签署了多项合作谅解备忘录，正式确定在能效领域的合作伙伴关系。这些努力为新建筑能效标准的设立提供了有益借鉴，培养了数百名设备经理和官员，推广了先进技术，并激发了城市制定更为进取的可持续发展目标。

Conservation Action Plan: *Protected Areas and Nature Preserves Management*

The United States and China face similar challenges as they strive to preserve wildlife and habitat for future generations. China's diverse ecosystems provide habitat for about 10 percent of the Earth's wildlife. Meanwhile, China's nature reserves cover 15 percent of the nation's territory, and preserve 90 percent of its terrestrial ecosystems, 85 percent of its wildlife population, and 65 percent of its plant community, playing a very important role in conserving biodiversity and promoting national economic and social sustainable development. The U.S. National Wildlife Refuges, National Parks, National Forests and other protected areas provide protection for a significant portion of the nation's wildlife and their habitat. Wetlands, in particular, are critical in helping to purify water, providing storm protection and flood control, and providing habitat for fish and other wildlife. Over the years, the two sides have conducted various forms of collaboration on policy analysis, plan and design, public outreach and wetland/refuge restoration in the area of nature preserves, refuge and wetlands, which has enhanced the management capability of protected areas and nature reserves in both countries. The two sides agreed on new cooperation programs and activities for 2014-2016.

保护行动计划：自然保护区及保护地管理

在努力为后代保护野生动物和栖息地方面，中美两国面临着相似的挑战。中国多样的生态系统为地球上约10%的野生动物提供栖息地。同时，中国自然保护区占国土陆域面积15%，有效保护着90%的陆地生态系统类型、85%的野生动物种群和65%的高等植物群落，对保护生物多样性，促进经济社会可持续发展发挥了重要作用；美国国家野生动物保护区、国家公园、国家森林和其他保护区为美国很大一部分野生动物及栖息地提供保护。特别是湿地，在帮助净化水质、提供风暴保护、洪水控制及为鱼类和其他野生动物提供栖息地等方面起到了关键作用。近年来，中美在关于自然保护区、庇护所、湿地的政策研究、规划设计、公共教育、湿地/栖息地恢复等方面开展了多种形式的合作交流，极大地提升了自然保护区的管理能力。双方已就2014-2016年度新的合作项目与活动达成一致。



Tidal marsh in the Panjiang Plain in Liaoning Province, China.

Photo by Beth Middleton



Graduate student Aileen Miller from Portland State University's Department of Environmental Science and Management (center) instructs Jia Yifei (left) and Xu Yingshou (right) on proper techniques for collecting biofilm from the surface of the intertidal mudflats on Bandon Marsh National Wildlife Refuge in Oregon.

Photo by Roy W. Lowe/USFWS

Wetlands: *Preserving Endangered Wetlands*

Based on the wetlands action contents resulting from the third S&ED in May 2011, the State Forestry Administration (SFA) of China in concert with the U.S. Department of State and the U.S. Geological Survey's National Wetland Research Center jointly published a special issue of the international journal of the Society of Wetlands Scientists (SWS) *Wetlands*. The online publication, an SWS Asian Wetlands Special Feature entitled "Function, Classification, and Management of Asian Wetlands" was distributed as hard and an electronic edition in early 2014.

In July and August 2011, two Chinese researchers participated in the biggest tidal marsh restoration project in Oregon history. The researchers learned about the design and implementation of tidal marsh restoration projects, participated in bird, fish, amphibian and water quality monitoring studies, removed non-native invasive plants, and monitored construction to protect archaeological resources. This experience furthered the goal of preserving or restoring endangered wetlands.

保护脆弱的湿地

根据2011年5月中美第三轮战略与经济对话确定的有关湿地行动内容，中国国家林业局与美国国务院和美国地质调查局国家湿地研究中心共同开展了湿地科学家学会国际期刊《湿地》的专刊出版工作。2014年初发行了《亚洲》湿地专刊“亚洲湿地的功能、分类与管理”的在线以及纸质版。

2011年7-8月，两名中国研究人员参加了俄勒冈州历史上最大的潮汐沼泽的修复工程。两名研究人员了解了潮汐沼泽恢复项目的设计和规划，参与了鸟类、鱼类、两栖类和水质监测研究，以及清理非原生入侵植物、监测考古资源保护工程建设等活动。这些经验进一步推进了保护或恢复濒危湿地目标的实现。

EcoPartnerships: *Engaging Subnational Players for Broader Participation*

The EcoPartnerships program is a platform under the TYF to foster practical cooperation, and it spurs innovation, investment, and progress toward shared goals in both countries through voluntary partnerships between subnational governments, companies, non-governmental organizations and research institutes. The EcoPartnerships signing ceremony has become one of the signature events of the S&ED. To date, 30 partnerships have been launched, covering areas such as power generation from renewable energy, circular economy, electric vehicles, environmental management, wetlands protection, comprehensive utilization of resources, energy conservation and efficiency, low carbon development, and a range of other issues. Good outcomes have resulted from the joint research and demonstrations of innovative technologies and concepts, realizing synergies among policies, R&D, markets and capital. EcoPartnerships continue to explore new models for sustainable development in energy and environment in the United States and China.

绿色合作伙伴计划：吸引地方伙伴，实现广泛参与

绿色合作伙伴计划是十年合作框架下促进务实合作的一个平台，通过促成两国地方政府、企业、非政府组织和研究机构间的自愿结对，促进创新与投资，推进实现中美两国共同的目标。绿色合作伙伴计划签字仪式已成为中美战略与经济对话的标志性活动之一。截至目前，中美已建立30对绿色合作伙伴，范围包括可再生能源发电、循环经济、电动汽车、环境治理、湿地保护、资源综合利用、节能增效、低碳发展和其他一些领域。双方创新型技术和理念的共同研究和示范项目已取得良好成效，实现了政策、科研、市场和资金的有机融合。绿色合作伙伴计划将继续探索中美能源环境领域可持续发展的新模式。



Secretary Kerry, Ambassador Baucus, State Councilor Yang, U.S. and Chinese officials, and the six new eco-partners at the July 2014 EcoPartnerships signing ceremony.
Photo by NDRC



USFS Associate Chief Mary Wagner giving SFA Deputy Director General Zhang Hongyan a Smokey Bear gift at the conclusion of the 6th Joint Working Group meeting on June 11, 2014.

TYF 2014-2018: LOOKING AHEAD

To date, the United States and China have used the TYF to set policy priorities and build technical capacity through cooperation and relationships. We are currently working together to implement existing solutions and to find better solutions to shared and emerging challenges. The TYF is a key element of a broad and active set of environment and energy-related mechanisms between the United States and China, including the Climate Change Working Group (CCWG) and the Transportation Forum. The cooperation fostered, in part, by our work under the TYF has contributed to joint efforts outside the TYF framework in exciting new areas, including combating wildlife trafficking and promoting the use of clean cookstoves. Looking ahead, the TYF will continue to serve as a platform for multiple agencies to synchronize efforts and focus on activities that will complement, enhance, and build on all of these efforts to tackle challenges related to energy and the environment.

TYF 2014-2018 年：展望未来

截至目前，中美双方利用十年合作框架开展合作与联系，确定政策重点，增强技术水平，积极利用现有方法并共同寻找更好的解决方案，携手应对两国目前共同面对的和新兴挑战。十年合作是中美两国能源和环境领域相关一系列广泛且活跃机制的重要组成部分，其他机制还包括中美气候变化工作组、中美交通论坛等。双方在十年合作框架下的努力在一定程度上促进了两国在一些令人激动的新领域的合作，如打击贩卖野生动物和推广清洁炉灶的使用。展望未来，十年合作将继续发挥平台作用，协同推进各参与部门的努力，补充、加强和巩固已取得的成果，共同应对能源和环境领域的挑战。

Improving Air Quality

In the next five years, the United States and China plan to continue working under the TYF's Clean Air Action Plan to achieve the following goals: address and reduce PM2.5 and ozone; further conduct technical research cooperation on multi-pollutant air pollution control (e.g., VOCs, other precursors to ozone and PM2.5); support effective implementation of China's new policy framework for regional air quality management and its action plans for pollution prevention and control by 2017 in many Chinese cities, and in particular in the three key economic regions; and conduct multi-form capacity building projects to develop and implement policy and legal approaches for effective control and prevention of air pollution and compliance with environmental requirements.

改善空气质量

在接下来的五年中，中美双方将继续在十年合作框架清洁大气行动计划下努力实现以下目标：应对和减少PM2.5和臭氧前体物；进一步开展多污染物协同控制技术研究（包括挥发性有机物、臭氧前体物和PM2.5等）；支持有效实施中国区域空气质量管理的政策框架，以及2017年将在中国许多城市实施的污染防治行动计划，特别是在三个主要的经济区域；开展多种形式的能力建设项目，以发展和落实政策和法律手段，有效控制和预防大气污染，符合环境要求。

Achieving Market-Based Solutions to Water Quality Issues

Under the TYF's Clean Water Action Plan, EPA and MEP plan to work together to evaluate and analyze clean water policies, notably U.S. market-based instruments for water protection and infrastructure, discharge permits, watershed-based permits, and other tools. The ultimate goal is for the United States to share experiences and lessons learned under U.S. environmental laws in support of MEP's assessment of these instruments as they develop China's Water Pollution Prevention and Control Action Plan.

用以市场为基础的方案解决水质问题

在十年合作清洁水行动计划下，中国环保部和美国环保局将携手合作，评估和分析清洁水政策，尤其是美国基于市场的针对水资源保护和基础设施、排污许可、流域许可的政策及其他工具。最终目标是分享美方在美国环境法框架下的经验和教训，以支持中国环保部在制定中国水污染防治行动计划时对以上工具的评估。

Promoting Clean Water Technologies

In order to address important environmental challenges identified by MEP, the United States plans to share with China its experience on managerial techniques and technologies for water treatment that have helped improve and solve water quality problems in the United States. EPA plans to identify guidance and tools to provide assistance in critical areas, including drinking water protection, non-point pollution prevention and treatment, ecological restoration, nitrogen and phosphorus control, best management practices, surface run-off management, permit management, monitoring, supervision and inspection technologies. USTDA plans to consider support for projects that help MEP assess the feasibility and performance of U.S. technologies and measures in watersheds, river basins, groundwater aquifers, and water sources in China, and to promote the introduction and transfer of such technologies.

推进清洁水技术

为应对中国环保部识别出的重点环境问题，美方将与中方分享其在水处理管理方法及技术等曾经改善和解决美国水质问题方面的经验。美国环保局将在一些关键领域确认指导方案和工具并提供支持，这些领域包括饮用水保护、非点源污染防治、生态修复、氮和磷的控制、最佳管理实践、地表径流管理、许可证管理、监测、监督检查技术等。美国贸易发展署将考虑支持环保部有关评估美国技术和措施在水域、江河流域、地下水含水层和水资源中可行性和效果的项目，促进这些技术的引进和转让。

Smart Grid Workshops

Current bilateral and multilateral programs, such as USTDA's numerous workshops and pilot projects on smart grid issues, have created a foundation for enhanced collaboration on smart grid technology development and deployment. An exciting, new initiative will be the creation of a Smart Grid Initiative to design a smart grid research project to be carried out over the next several years under the CCWG. The United States and China also plan to continue working through the TYF, CCWG, and other established bilateral and multilateral programs to design workshops and projects that accelerate our collaborative smart grid work.

智能电网研讨会

目前双边和多边的各种项目，例如美国贸易发展署关于智能电网的许多研讨会和试点项目，为中美两国在智能电网技术开发和应用领域进一步加强合作奠定了基础。气候变化工作组下智能电网工作组将设计智能电网研究项目并在未来几年逐步实施，这是一项令人振奋的新倡议。中美双方也将继续通过十年合作、气候变化工作组和其他已建立的双边和多边机制设计研讨会和项目，促进双方智能电网领域的合作。

Protected Areas Action

The United States and China plan to strengthen existing protected area partnerships and explore new partnerships to enhance the training of technical personnel, in particular regarding research and cooperation in protected area planning, facilities management and public use policies. Both sides will continue to promote the partnerships between U.S. and Chinese protected areas, including through "Sister Park" partnerships, as well as between China's Changbai Mountain National Natural Protected Area and the U.S. Arctic National Wildlife Refuge. Focus areas may include public outreach, habitat management, and facility development, among others.

保护区行动计划

中美将加强已有保护区伙伴计划，并拓展新的合作伙伴，加强技术人员培训，特别是关于保护区规划、设备管理和公共使用政策的研究和合作。双方将继续推进中美保护区伙伴关系建设，包括“姐妹公园”，以及中国长白山国家自然保护区和美国北极野生动物保护区合作，合作领域将包括公共教育、栖息地管理、设备发展等。

Making great efforts to promote U.S.-China energy efficiency cooperation

Both sides plan to further translate the consensus between the Presidents of the United States and China into actions and implement the U.S.-China Energy Efficiency Action Plan, making best use of the platform of the Energy Efficiency Forum. Priority will be given to strengthen energy conservation cooperation in areas such as buildings, industry, standards and market mechanism, including energy performance contracting, improving the efficiency of industrial boilers, energy efficiency standards, and harmonization of test methods for energy saving products, as well as energy efficiency trade and investment. The Energy Efficiency Forum will continue alternating between the countries each year, with the next slated for the United States in 2015. The United States and China will also explore efficiency and other issues related to the energy-water nexus as a possible new area in which to cooperate. The two sides plan to establish a mechanism of exchange visits and provide enterprises, organizations and governments with more opportunities to explore cooperative potentials.

大力推进中美能效合作

双方将进一步贯彻两国元首共识，推进中美能效行动计划落实，充分发挥能效论坛平台作用，重点推进建筑、工业、标准、市场机制等领域节能合作，包括合同能源管理、锅炉能效提升、能效标准、对接节能产品测试方法、能效贸易与投资等。中美能效论坛将继续每年在两国轮流举行，2015年论坛将在美国举办。中美双方也将拓展能水关系中能效及其他相关议题作为合作的新领域。建立能效领域双边互访机制，为双方企业、机构、政府提供更多交流机会，以发掘更多合作潜力。



TYF Chinese at MACA: Superintendent of China's Libo Zhangjiang Geopark visits the Superintendent of his American sister park partner at Mammoth Caves National Park.

Photo by Jacob Fillian



2010 PRC State Councilor: Grand National Park staff hosting in 2010 China's State Councilor Liu.

Photo by Jacob Fillian

Livability and Sustainable Transportation Cooperation

The two sides plan to further promote cooperation on livability and sustainable transportation, explore new opportunities, strengthen the pilot Livability Project and information exchanges, and build on our shared knowledge and experience. The two sides plan to carry out exchanges on low sulfur fuel for gasoline and diesel through existing collaborative mechanisms, such as the Memorandum of Understanding between the EPA and MEP and the U.S.-China Climate Change Working Group. The United States and China intend to actively apply for joint international research and conduct joint training programs focusing on cutting-edge technologies for new energy vehicles. At the Fourth U.S.-China Advanced Biofuels Forum, the two sides hope to promote the commercialization of cellulosic bioethanol fuels and microalgae bioenergy projects, and enlarge the practical cooperation between U.S. and Chinese companies in the research and commercialization of advanced biofuels. The two governments will seek to encourage transportation enterprises to voluntarily participate in public-private partnerships. The two sides plan to host the second U.S.-China Aviation Energy Conservation and Emission Reduction Strategic Forum.

宜居和可持续交通合作

双方将深入推进中美宜居和可持续交通合作，探索新的合作机会，加强宜居交通试点与交流，积累宜居交通发展经验；通过现有合作机制，如中国环境保护部与美国环境保护局签署谅解备忘录建立的合作机制和中美气候变化工作组，适时推动开展中美汽柴油低硫化交流活动。积极申请中美国际联合实验，联合培养人才，聚焦新能源汽车前沿技术；视情况举办第四届中美先进生物燃料论坛，努力推动纤维素燃料乙醇和微藻生物能源项目商业化，扩大双方企业在先进生物燃料领域的研究和商业化实质性合作；探索运输企业自愿参与公共—私营伙伴关系计划合作的可能性措施；举办第二届中美民航节能减排战略年会。

Wetlands

The United States and China plan to analyze the projects that are supporting the implementation of the "Ten-year Action Plan on US-Sino Wetlands Cooperation" and carry out by prioritized order. In addition, the two sides will continue to promote collaboration and exchange visits in order to enrich and deepen cooperation and communication. The United States and China plan to regularly inform appropriate participating national project organizations on the progress of project implementation.

湿地

双方将对“中美湿地合作十年行动计划”有关项目执行情况进行梳理，并按照所提项目的优先顺序执行。继续推进中美双方交流互访活动，进一步丰富深化合作内容，拓宽交流合作方式。定期向各自国家项目参与部门通报项目执行及进展情况。

EcoPartnerships

Against the backdrop of strong determination to strengthen bilateral climate change, energy, and environment cooperation, the United States and China plan to continue to leverage the advantages of the innovative platform of the EcoPartnerships program. It is important that we continue to improve the management and operation of the platform to facilitate exchanges and concrete projects on innovative concepts and technologies among the U.S. and Chinese EcoPartners, where some of the most innovative policy and technological advances in energy and environmental protection are occurring at the sub-national level. We expect the EcoPartnerships program can and will continue making contributions to deepening practical cooperation on climate change, energy and environment issues in the United States and China.

绿色合作伙伴计划

在中美决心大力推进双边气候变化与能源环境合作的背景下，双方将继续发挥中美绿色合作伙伴计划这一创新性合作平台的优势，不断完善其管理和运行，促进中美绿色合作伙伴之间开展创新理念和技术交流和务实合作项目，一些能源和环境保护领域最为创新的政策和技术进步正在地方层面得以实施。我们相信中美绿色合作伙伴计划能够且将继续为深化中美气候变化和能源环境领域务实合作作出贡献。

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